

ABSTRACTMICROENCAPSULATED CATALYST-LIGAND SYSTEM, METHODS OF PREPARATION  
AND METHODS OF USE THEREOF

5           A microencapsulated catalyst-ligand system is prepared by dissolving or  
dispersing a catalyst and/or a ligand in a first phase (for example an organic phase),  
dispersing the first phase in a second, continuous phase (for example an aqueous phase)  
to form an emulsion, reacting one or more microcapsule wall-forming materials at the  
interface between the dispersed first phase and the continuous second phase to form a  
10   microcapsule polymer shell encapsulating the dispersed first phase core and when the  
first phase contains only a catalyst or a ligand, treating the microcapsules with the  
remaining ligand or catalyst component of the catalyst-ligand system. The catalyst is  
preferably a transition metal catalyst and the ligand is preferably an organic ligand. The  
encapsulated catalyst-ligand system may be used for conventional catalysed reactions.  
15   The encapsulated catalyst-ligand system may be recovered from the reaction medium and  
re-cycled.

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WO 2005/016510 A1